

Figure 1. Amino acid alignment of human CNG2B with rat OCNC2. Identical residues are shaded and numbers at the left margin indicate amino acid position.

1	MSQD	T	KVKT	TES	SPAP	S	KARK	K	L	PVLD	PSGD	Y	Y	W	L	N	T	Cng2b.pro																							
1	MSQD	G	KVKT	TES	T	P	P	A	P	T	KARK	K	W	L	PVLD	PSGD	Y	Y	W	L	N	T	rOCNC2.PR																		
41	MVFP	V	M	Y	N	L	I	I	L	V	C	R	A	C	F	P	D	L	Q	H	G	Y	L	V	A	W	L	V	L	D	Y	T	S	D	L	L	Y	Cng2b.pro			
41	MVFP	I	M	Y	N	L	I	I	V	V	C	R	A	C	F	P	D	L	Q	H	S	Y	L	V	A	W	F	V	L	D	Y	T	S	D	L	L	Y	rOCNC2.PR			
81	L	L	D	M	V	V	R	F	H	T	G	F	L	E	Q	G	I	L	V	V	D	K	G	R	I	S	S	R	Y	V	R	T	W	S	F	F	L	D	L	A	Cng2b.pro
81	L	L	D	I	G	V	R	F	H	T	G	F	L	E	Q	G	I	L	V	V	D	K	G	M	I	A	S	R	Y	V	R	T	W	S	F	L	L	D	L	A	rOCNC2.PR
121	S	L	M	P	T	D	V	V	Y	V	R	L	G	P	H	T	P	T	L	R	L	N	R	F	L	R	A	P	R	L	F	E	A	F	D	R	T	E	T	R	Cng2b.pro
121	S	L	V	P	T	D	A	A	Y	V	Q	L	G	P	H	I	P	T	L	R	L	N	R	F	L	R	V	P	R	L	F	E	A	F	D	R	T	E	T	R	rOCNC2.PR
161	T	A	Y	P	N	A	F	R	I	A	K	L	M	L	Y	I	F	V	V	I	H	W	N	S	C	L	Y	F	A	L	S	R	Y	L	G	F	G	R	D	A	Cng2b.pro
161	T	A	Y	P	N	A	F	R	I	A	K	L	M	L	Y	I	F	V	V	I	H	W	N	S	C	L	Y	F	A	L	S	R	Y	L	G	F	G	R	D	A	rOCNC2.PR
201	W	V	Y	P	D	P	A	Q	P	G	F	E	R	L	R	R	Q	Y	L	Y	S	F	Y	F	S	T	L	I	L	T	T	V	G	D	T	P	P	P	A	R	Cng2b.pro
201	W	V	Y	P	D	P	A	Q	P	G	F	E	R	L	R	R	Q	Y	L	Y	S	F	Y	F	S	T	L	I	L	T	T	V	G	D	T	P	L	P	D	R	rOCNC2.PR
241	E	E	E	Y	L	F	M	V	G	D	F	L	L	A	V	M	G	F	A	T	I	M	G	S	M	S	S	V	I	Y	N	M	N	T	A	D	A	A	F	Y	Cng2b.pro
241	E	E	E	Y	L	F	M	V	G	D	F	L	L	A	V	M	G	F	A	T	I	M	G	S	M	S	S	V	I	Y	N	M	N	T	A	D	A	A	F	Y	rOCNC2.PR
281	P	D	H	A	L	V	K	K	Y	M	K	L	Q	H	V	N	R	K	L	E	R	R	V	I	D	W	Y	Q	H	L	Q	I	N	K	K	M	T	N	E	V	Cng2b.pro
281	P	D	H	A	L	V	K	K	Y	M	K	L	Q	H	V	N	K	R	L	E	R	R	V	I	D	W	Y	Q	H	L	Q	I	N	K	K	M	T	N	E	V	rOCNC2.PR
321	A	I	L	Q	H	L	P	E	R	L	R	A	E	V	A	V	S	V	H	L	S	T	L	S	R	V	Q	I	F	Q	N	C	E	A	S	L	L	E	E	L	Cng2b.pro
321	A	I	L	Q	H	L	P	E	R	L	R	A	E	V	A	V	S	V	H	L	S	T	L	S	R	V	Q	I	F	Q	N	C	E	A	S	L	L	E	E	L	rOCNC2.PR
361	V	L	K	L	Q	P	Q	T	Y	S	P	G	E	Y	V	C	R	K	G	D	I	G	Q	E	M	Y	I	I	R	E	G	Q	L	A	V	V	A	D	D	G	Cng2b.pro
361	V	L	K	L	Q	P	Q	T	Y	S	P	G	E	Y	V	C	R	K	G	D	I	G	R	E	M	Y	I	I	R	E	G	Q	L	A	V	V	A	D	D	G	rOCNC2.PR
401	I	T	Q	Y	A	V	L	G	A	G	L	Y	F	G	E	I	S	I	I	N	I	K	G	N	M	S	G	N	R	R	T	A	N	I	K	S	L	G	Y	S	Cng2b.pro
401	V	T	Q	Y	A	V	L	G	A	G	L	Y	F	G	E	I	S	I	I	N	I	K	G	N	M	S	G	N	R	R	T	A	N	I	K	S	L	G	Y	S	rOCNC2.PR
441	D	L	F	C	L	S	K	E	D	L	R	E	V	L	S	E	Y	P	Q	A	Q	T	I	M	E	E	K	G	R	E	I	L	L	K	M	N	K	L	D	V	Cng2b.pro
441	D	L	F	C	L	S	K	E	D	L	R	E	V	L	S	E	Y	P	Q	A	Q	A	V	M	E	E	K	G	R	E	I	L	L	K	M	N	K	L	D	V	rOCNC2.PR
481	N	A	E	A	A	E	I	A	L	Q	E	A	T	E	S	R	L	R	G	L	D	Q	Q	L	D	D	L	Q	T	K	F	A	R	L	L	A	E	L	E	S	Cng2b.pro
481	N	A	E	A	A	E	I	A	L	Q	E	A	T	E	S	R	L	K	G	L	D	Q	Q	L	D	D	L	Q	T	K	F	A	R	L	L	A	E	L	E	S	rOCNC2.PR
521	S	A	L	K	I	A	Y	R	I	E	R	L	E	W	Q	T	R	E	W	P	M	P	E	D	L	A	E	A	D	D	E	G	E	P	E	E	G	T	S	K	Cng2b.pro
521	S	A	L	K	I	A	Y	R	I	E	R	L	E	W	Q	T	R	E	W	P	M	P	E	D	M	G	E	A	D	D	E	A	E	P	G	E	G	T	S	K	rOCNC2.PR
561	D	E	E	G	R	A	S	Q	E	G	P	P	G	P	E																								Cng2b.pro		
561	D	G	E	G	K	A	G	Q	A	G	P	S	G	I	E																								rOCNC2.PR		

Figure 2: human CNG2B sequence derived from assembly of PCR fragments

AGAGGGGAGGAGGAAAAACAGAGACAAGACTCAGGCTTCCCTCTGAGGCATGCACCCCCACCTTCTCCAGGGATCTCA
TTAGAGGTGTTTAGCTGGGCAGGTGTAAGCCCAGGCCCTGGGAGACAGGGCAGAGTGCTAGAGCTAGACTGTCTCCA
CCCCCTTCAGTAGCGCTAGCTCTGGTTGTGTTGCTAAGAGCCCCAAAGACAAAGAAGTCACAGCAGAAGCCCAACAGC
AGCCTCCTTCAGACAGTCAGGCACCTAGTGCCCAACTCCAGAAGTCCCCTACAGGCAGAGAGGGTGTGGACATCTCAC
ACCCACAGCACCAGACCACAGAACCATGAGCCAGGACACCAAAGTGAAGACAACAGAGTCCAGTCCCCCAGCCCCATC
CAAGGCCAGGAAGTTGCTGCCTGTCTGGACCCATCTGGGGATTACTACTGCTGGTGGCTGAACACAATGGTCTTCC
CAGTCATGTATAACCTCATCATCTCGTGTGCAGAGCCTGCTTCCCCGACTTGCAGCACGGTTATCTGGTGGCCTGG
TTGGTGTCTGGACTACACGAGTGACCTGCTATACCTACTAGACATGGTGGTGCCTTCCACACAGGATTCTTGGAACA
GGGCATCCTGGTGGTGGACAAGGGTAGGATCTCGAGTCGCTACGTTTCGCACCTGGAGTTTCTTCTTGGACCTGGCTT
CCCTGATGCCCACAGATGTGGTCTACGTGCGGCTGGGCCCCGACACACCCACCCCTGAGGCTGAACCGCTTTCTCCGC
GCGCCCCGCTCTTCGAGGCCTTCGACCGCACAGAGACCCGCACAGCTTACCCAAATGCCTTTTCGCATTGCCAAGCT
GATGCTTTACATTTTGTGCTCATCCATTGGAAACAGCTGCCTATACTTTGCCCTATCCCGGTACCTGGGCTTCGGGC
GTGACGCATGGGTGTACCCGGACCCGCGCAGCCTGGCTTTGAGCGCCTGCGGCGCCAGTACCTCTATAGCTTTTAC
TTCTCCACGCTGATACTGACTACAGTGGGCGATACACCGCGCCAGCCAGGGAAGAAGAGTACCTCTTCATGGTGGG
CGACTTCCTGCTGGCCGTCATGGGTTTCGCCACCATCATGGGTAGCATGAGCTCTGTCATCTACAACATGAACACTG
CAGATGCGGCTTTCTACCCAGATCATGCACCTGGTGAAGAAGTACATGAAGCTGCAGCACGTCAACCGCAAGCTGGAG
CGGCGAGTTATTGACTGGTATCAGCACCTGCAGATCAACAAGAAGATGACCAACGAGGTAGCCATCTTACAGCACTT
GCCTGAGCGGCTGCGGGCAGAAGTGGCTGTGTCTGTGCACCTGTCCACTCTGAGCCGGGTGCAGATCTTTCAGAACT
GTGAGGCCAGCCTGCTGGAGGAGCTGGTGTGTAAGCTGCAGCCCCAGACCTACTCACCAGGTGAATATGTATGCCGC
AAAGGAGACATTGGCCAAGAGATGTACATCATCCGAGAGGGTCAACTGGCCGTGGTGGCAGATGATGGTATCACACA
GTATGCTGTGCTCGGTGCAGGGCTCTACTTTGGGGAGATCAGCATCATCAACATCAAAGGGAACATGTCTGGGAACC
GCCGCACAGCCAACATCAAGAGCCTAGGTTATTTCAGACCTATTCTGCCTGAGCAAGGAGGACCTGCGGGAGGTGCTG
AGCGAGTATCCACAAGCACAGACCATCATGGAGGAGAAAGGACGTGAGATCCTGCTGAAAATGAACAAGTTGGACGT
GAATGCTGAGGCAGCTGAGATCGCCCTGCAGGAGGCCACAGAGTCCCGGCTACGAGGCCTAGACCAGCAGCTGGATG
ATCTACAGACCAAGTTTGTCTCGCCTCCTGGCTGAGCTGGAGTCCAGCGCACTTAAGATTGCTTACCGCATTGAACGG
CTGGAGTGGCAGACTCGAGAGTGGCCAATGCCCCGAGGACCTGGCTGAGGCTGATGACGAGGGTGAGCCTGAGGAGGG
AACTTCCAAAGATGAAGAGGGCAGGGCCAGCCAGGAGGGACCCCCAGGTCCAGAGTGACCCCATCCCCATCCCCAGG
ATTCCCACCTCCTAGTGAATCCAGAGTTGTAGTAAAGCCTAACTGCTGCAACTCTGTATCCTGTCTGCGAGATCAC
AGACACAGGAGCGAATTGGTCTGTAGATGCCCAGCTAGAGATATAGGAGTTTAACGCACATTACGCCCCCACTTACC
AGTACACACACACACACACACACACATTGCTCATAGACCTGTTGGCCCCAAGACTGTGCAATTCATCTAA

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CNG2B Coding Sequence

[illegible]

Figure 4
CNG2B Amino Acid Sequence

MSQDTKVKTTESSPPAPSKARKLLPVLDPSGDYYYWWLNTMVFPVMYNLIILVCRACFPDLQHGYLVAWLVLDTSD
LLYLLDMVVRFHTGFLEQGILVVDKGRISSRYVRTWSFFLDLASLMPTDVVYVRLGPHTPTLRLNRFLRAPRLF
DRTETRTAYPNAFRIAKLMLYIFVVIHWNSCLYFALSRYLGFRDAWVYPDPAQPGFERLRRQYLYSFYFSTLILTT
VGDTPPPAREEEYLFMVGDFLLAVMGFATIMGSMSSVIYNMNTADAAFYPDHALVKKYMKLQHVNRKLERRVIDWYQ
HLQINKKMTNEVAILQHLPERLRAEVAVSVHLSTLSRVQIFQNCESLLEELVLKLQPQTYSPGEYVCRKGDIGQEM
YIIREGQLAVVADDGITQYAVLGAGLYFGEISIINIKGNMSGNRRTANIKSLGYSDLFCLSKEDLREVLSEYPQAQT
IMEEKGREILLKMNKLDVNAEAAEIALQEATESRLRGLDQQLDDLQTKFARLLAELESSALKIAYRIERLEWQTREW
PMPEDLAEADDEGEPEEGTSKDEEGRASQEGPPGPE

MSQDTKVKTTESSPPAPSKARKLLPVLDPSGDYYYWWLNTMVFPVMYNLIILVCRACFPDLQHGYLVAWLVLDTSD